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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,684	02/27/2002	Bo Shen	10016868-1	1394

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HEWLETT-PACKARD COMPANY
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EXAMINER	
SENFI, BEHROOZ M	
ART UNIT	**PAPER NUMBER**
2621	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/085,684	SHEN ET AL.	
	Examiner	Art Unit	
	Behrooz Senfi	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12,14-19 and 21-29* is/are pending in the application.

4a) Of the above claim(s) *13 and 20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,14-19 and 21-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's arguments filed 10/17/2006 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 – 4, 7 – 11, 14 and 16 – 19, 21 - 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shen et al. (US 6,950,464) in view of Uenoyama et al (6,798,837).

Regarding claim 1, Shen '464 teaches, a method for reducing the resolution of media data (i.e. fig. 2), the method comprising: accessing compressed input data for a frame of a plurality of frames (i.e. fig. 1, abstract, lines 4 – 10, col. 5, lines 33 – 38), wherein the frame is at a first resolution and comprises a plurality of macro-blocks, wherein the plurality of macro-blocks comprises a subset of macro-blocks that is to be encoded as a single output macro-block (i.e. col. 2, lines 36 – 41 and 51 – 60), down-sampling the subset of macro-blocks to generate the output macro-block comprising compressed down-sampled data at a second resolution that is reduced relative to the first resolution (i.e. fig. 2, trans-coder 26) wherein the accessing and down-sampling are

performed prior to transmitting over a wireless network; and transmitting the output macro-block comprising compressed down-sampled data to a wireless device over the wireless network (i.e. fig. 2, elements 22 – 34).

Shen '464 (i.e. col. 11, lines 20 – 37) teaches selecting of macro-blocks and making decision on whether to trans-code a macro-block, by applying a threshold, which may be advantageous to avoid trans-coding of macro-blocks that required minimum rate reduction. But is silent in regards to explicit of selecting a data processing function according to the number of the macro-blocks in the subset that are characterized as intra coded and comparison with the threshold.

Uenoyama '837 in the same field (i.e. figs. 23 - 24 and col. 11, lines 22 – 40) teaches counting the number of macro-blocks in a group (subset, certain, ratio) of macro-blocks and then compare the count within the group with the threshold and based on the comparison, the processing decisions are made.

In view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to utilize the system and method of transmitting data as taught by Shen in accordance with the teaching of Uenoyama by incorporating the coding mode selector (selection of processing function) processing, to minimize the deterioration of image qualities, as suggested by Uenoyama.

Regarding claim 2, the limitation, wherein the input data comprise motion vectors, wherein the method comprises: generating motion vectors for the frame at the second resolution using the motion vectors from the input data (Shen; fig. 6, also Uenoyama; fig. 1, element 206).

Regarding claim 3, Shen and Uenoyama teach, generating MVs for the frame (Shen; fig. 6, also Uenoyama; fig. 10). Shen is silent in regards to the claim, averaging the MVs from the input data as claimed. However, Official Notice is taken to note that the above feature of averaging MVs and/or mapping MVs is notoriously well known in motion compensated video compression to ensure no false detection of movement, and improving the accuracy of motion detection.

Regarding claim 4, the limitation, wherein the input data are compressed according to a discrete cosine transform-based compression scheme, wherein the input data comprise discrete cosine transform (DCT) coefficients (Shen; col. 12, lines 19 – 30).

Regarding claim 7, the limitation, wherein the media data are-selected from the group consisting of: video data, audio data, image data, graphic data, and web page data (Shen; figs. 1 – 2, col. 5, lines 1 – 2).

Regarding claims 8 – 9, the limitations claimed have been analyzed and rejected with respect to claim 1 above.

Regarding claim 10, the limitations claimed are substantially similar in scope to claim 1 above, therefore the ground for rejecting claim 1 also applies here. Furthermore, for additional limitation, motion compensation (MC), please see (Shen; col. 5, lines 10 – 13).

Regarding claims 11 and 14, the limitations claimed have been analyzed and rejected with respect to claim 1 above.

Regarding claims 16 - 17, the limitations claimed have been analyzed and rejected with respect to claims 3 – 4 above.

Regarding claim 18, the limitation, quantization parameter, reads on (Shen; fig. 6).

Regarding claim 19, the limitations claimed are the system corresponding to the methods of claim 1, which have been analyzed and rejected with respect to claim 1. Furthermore; for the additional limitation, a relay adapted to transmit the compressed data, reads on (Shen; satellite and receiver, col. 6, lines 36 – 51).

Regarding claim 21, the limitation, motion vector generator coupled to the input buffer, the motion compensator adapted to generate motion vectors for a frame at the second resolution (Shen; fig. 6, element 102, generates motion vector and mode information, which obviously includes the motion compensator to generate motion vectors).

Regarding claim 22, Shen teaches the claimed, rate controller (i.e. fig. 2, element 28).

Regarding claims 23 and 24, the limitations claimed have been analyzed and rejected with respect to claims 4 and 7 above.

4. Claims 5 – 6, 12, 15, 25 - 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shen et al. (US 6,950,464) in view of Uenoyama et al (6,798,837) further in view of Vetro et al (US 6,671,322).

Regarding claim 5, Shen teaches, generating an output data stream at the second resolution and bit-rate conversion and tailoring.

Shen is silent in regards to the details of determination of a bit rate for the output data stream using DCT coefficients from the input data as claimed.

Vetro '322 in the same field (i.e. figs. 1 – 2, col. 2, lines 1 – 67 and col. 3, lines 1 – 9) teaches the above subject matter.

In view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the compression process of Shen, in accordance with the teaching of Vetro by controlling the bit allocation to have the desired output bit-rate, as suggested by Vetro.

Regarding claim 6, the combined teaching of Shen, Uenoyama and Vetro makes obvious the claimed input data are encoded according to a first compression scheme and the output data stream are encoded according to a second compression scheme (Shen; transcoding).

Regarding claim 12, Shen teaches, decoding the compressed down-sampled data to generate decompressed down-sampled data (Shen, figs 2 and 6, trans-coder 26).

Shen is silent in regards to the claim, up-sampling the decompressed down-sampled data.

Vetro in the same field (i.e. fig. 11a, element 1191) teaches the claim up-sampling the decompressed data.

In view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the system/method of Shen in

accordance with the teaching of Vetro by incorporating an up-sampler to up-sample the down-sampled image to generate the original image resolution as claimed.

Regarding claim 15, the limitations claimed have been analyzed and rejected with respect to claim 12.

Regarding claim 25, the limitations claimed is the computer readable medium corresponding to the combination method of claims 8 and 12. Since the combination teaching of Shen, Uenoyama and Vetro as applied to claim 12 is computer implemented, therefore the ground for rejecting claim 12 also applies here.

Regarding claims 26 - 28, Shen, Uenoyama and Vetro teaches motion vectors ..... (Shen, fig. 6, MV, also Vetro, fig. 5, 560), and averaging MV, in claim 27 (Vetro; fig. 5, MV mapping), and input data comprises DCT coefficients, in claim 28 (Shen, col. 12, lines 19 – 30).

Regarding claim 29, the limitations claimed accessing quantization parameter for the frame at the first resolution and driving quantization parameter for the second resolution from the quantization parameter from the first resolution, reads on (Shen; fig. 2, rate controller 28 and also Vetro; figs. 1 – 2, col. 2, lines 1 – 67).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Behrooz Senfi** whose telephone number is **(571) 272-7339.**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Mehrdad Dastouri** can be reached on **(571) 272-7418.**

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(571) 273-8300

Hand-delivered responses should be brought to Randolph Building, 401 Dulany Street, Alexandria, Va. 22314.

Any inquiry of a general nature or relative to the status of the application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is **(571) 272-6000**.

B. M. S.

TUNG VO
PRIMARY EXAMINER